



Osprey Flight Solutions

A new age for aviation risk management

9 August 2022

Russia-Ukraine Situation Update

Russia-Ukraine Situation Update

Executive Summary & UK MoD Intelligence Update



Executive Summary

Matthew Borie – Chief Intelligence Officer

- Since c.0300 UTC on 24 February, Russian military cross-border strikes into Ukraine have been reported, **with approximately 4,000 cruise and ballistic missiles as well as guided rocket artillery** targeting main urban centres outside of Donetsk and Luhansk, including Kyiv, Kharkiv, Dnipro, Lviv, Ivano-Frankivsk, Lutsk, Odessa, Kherson, Zaporizhzhia and Mariupol. **Airports, airbases and/or military installations with aviation infrastructure in many cities have been targeted.**
- On 29 March, Russia stated the primary aim of the "Special Military Operation" is to "liberate" the Donbass (Donetsk and Luhansk), and Russian forces withdrew from areas north of Kyiv. However, Mariupol was taken by Russian forces by late May. The vast majority of the fighting in the south spans from Mykolaiv near Crimea through to the Sea of Azov area and into the Donbass, though Russian military operations in the Kharkiv region are ongoing. **Osprey expects the Ukraine war will shift further to the southwest in the months ahead with heavy fighting expected near Zaporizhzhya to Kherson, along the Dnieper River.**
- Russian naval activity has also been reported in the Black Sea and Sea of Azov since 24 February, and Russian cruise missiles have been launched from both areas as well as from the northern Caspian Sea into Ukraine on multiple occasions. **Ukraine has conducted several drone and/or cruise missile strikes on Russian targets in the Black Sea as well as in Crimea.**
- Ukrainian military drone & ballistic missile strikes have targeted Russian military logistics bases in Kursk, Bryansk, Belgorod, Taganrog and Millerovo. Russian air defences have reportedly shot down a limited number of Ukrainian ballistic missiles & drones over Belgorod, Bryansk, Kursk, Voronezh & Rostov oblasts.

Executive Summary: Air & Air Defence Losses

- Verified losses of Ukrainian military air assets: 40 aircraft, 11 helicopters & 43 drones
- Verified losses of Russian military air assets: 39 aircraft, 49 helicopters & 104 drones
- Verified losses of Ukrainian armed forces air-defence assets: 111 components
- Verified losses of Russian armed forces air-defence assets: 251 components
- *Analyst Comment: Russia is not assessed to have achieved air superiority over Ukrainian airspace. While degraded, Ukrainian military air and air-defence operations remain ongoing. Ukraine is assessed to be conducting approximately 15-25 jet air sorties per day as the airspace remains contested. Russia is assessed to be conducting approximately 200 air sorties per day, though a notable portion are likely occurring in Russian airspace and not over Ukraine due to the persistent threat posed by Ukrainian air defences at all altitudes.*



Russia-Ukraine Situation Update

UK Defence Intelligence Update – 6 August



The graphic features a dark blue background with a faint map of Ukraine. In the top left corner is the Defence Intelligence logo, which includes a crown and a shield. A yellow horizontal bar spans across the middle, containing the text 'INTELLIGENCE UPDATE'. In the top right corner, the text 'UPDATE ON UKRAINE' is written in white, with '6 August 2022' below it. The main content consists of three bullet points enclosed in a light blue border.

Defence Intelligence

UPDATE ON UKRAINE
6 August 2022

INTELLIGENCE UPDATE

- Russian forces are almost certainly massing in the south in anticipation of Ukraine's counter-offensive or in preparation for a possible assault. Long convoys of Russian military trucks, tanks, towed artillery, and other weapons continue to move away from Ukraine's Donbas region and are headed southwest. Equipment was also reported to be moving from Russian-occupied Melitopol, Berdiansk, Mariupol and from mainland Russia via the Kerch Bridge into Crimea. Battalion tactical groups (BTG), which comprise between 800 and 1,000 troops, have been deployed to Crimea and would almost certainly be used to support Russian troops in the Kherson region. On 02 August 2022, a new BTG had been deployed to Crimea and BTGs are also being re-deployed from Eastern Grouping of Forces. These will highly likely be sent into the Kherson region in the coming days.
- Ukrainian forces are focusing their targeting on bridges, ammunition depots, and rail links with growing frequency in Ukraine's southern regions including the strategically important railroad spur that links Kherson to Russian-occupied Crimea, almost certainly using a combination of block, damage, degrade, deny, destroy, and disrupt effects to try to affect Russia's ability to logistically resupply.
- Russia's war on Ukraine is about to enter a new phase, with the heaviest fighting shifting to a roughly 350km front line stretching southwest from near Zaporizhzhya to Kherson, paralleling the Dnieper River.

Russia-Ukraine Situation Update

UK Defence Intelligence Update – 9 August



Russia-Ukraine Situation Update

Data Analytics from Osprey:Explore



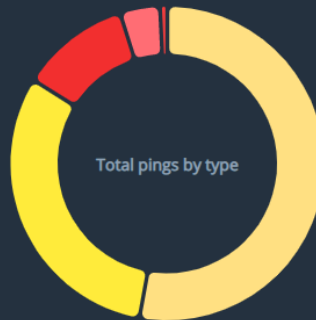
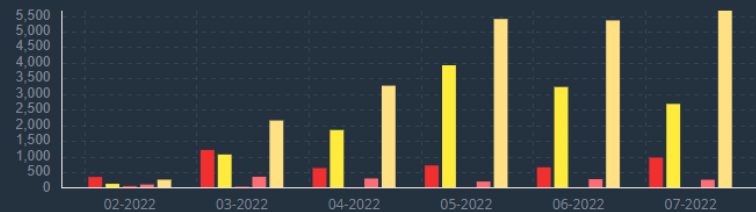
Russia-Ukraine Situation Update

Osprey:Explore - Rocket and missile strikes, attacks on airports/airbases and aerial target engagements in Ukraine since 24 February

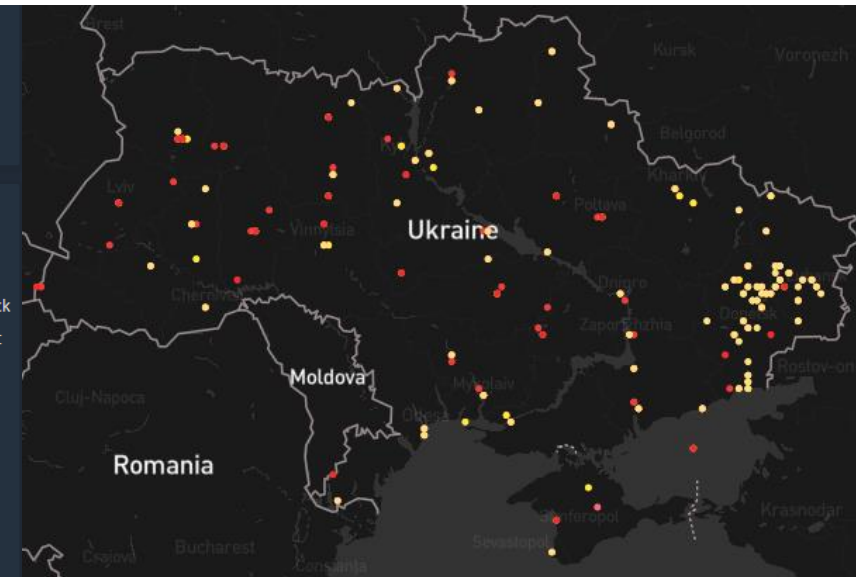


Total pings by type

- Missile Launch
- Airstrikes
- Airport/Airbase Attack
- Inflight Attack - Asset
- Projectile event



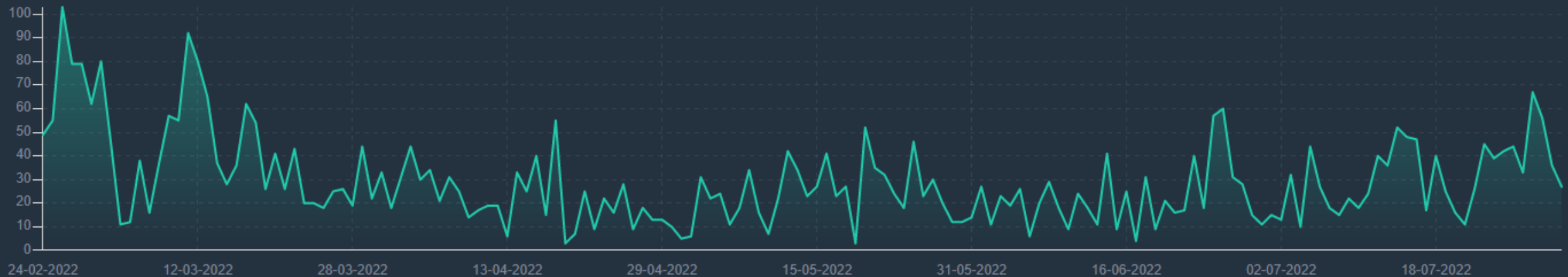
- Missile Launch
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Russia-Ukraine Situation Update

Osprey:Explore – Missile launches during the Ukraine conflict



Missile launches: Russian cruise missile and ballistic missile launches are steadily trending downward since April. However, specific targeting of Ukrainian military bases, logistical sites and critical infrastructure continues by the Russian military. Such activity has seen an upward trend in since mid July with missile launches areas deep within the Ukrainian interior. In addition, Ukraine continues to use cruise missiles, short-range ballistic missiles and guided rocket artillery against Russian military targets inside Ukrainian territory; this accounts for a portion of the increases observed above since mid June, compared to the total from April-May.



Russia-Ukraine Situation Update

Osprey:Explore – Unguided rocket, artillery and mortar barrages during the Ukraine conflict



Rocket/artillery barrages (unguided munitions): Use of these weapons has been steadily increasing during the conflict but has remained at a notably high intensity since late July as Russia advances in the Donbass and continues shelling Kharkiv in the northeast and Mykolaiv in the south. The past two weeks have seen a further increase in the use of mortars, rockets and artillery by both Russia and Ukraine; this is expected to be the primary means of fire by both sides in the months ahead.



Russia-Ukraine Situation Update

Osprey:Explore – Airstrikes during the Ukraine conflict

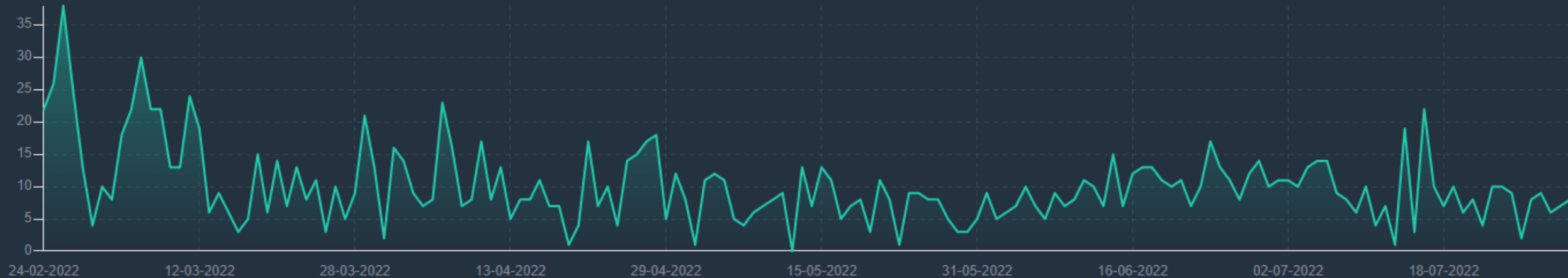


Airstrikes: Russian Air Force performance during the conflict had been inconsistent from day to day in the first month of the conflict; airstrike totals stabilised in May, though there was been a downward trend in daily totals in June. Air operations are frequently occurring over the Donbass and southern Ukraine, although the Russian Air Force has underperformed during the conflict, as evidenced by the notable decrease in activity in the past two weeks.



Russia-Ukraine Situation Update

Osprey:Explore – Actual or attempted downings of aircraft, helicopters, drones & missiles over Ukraine

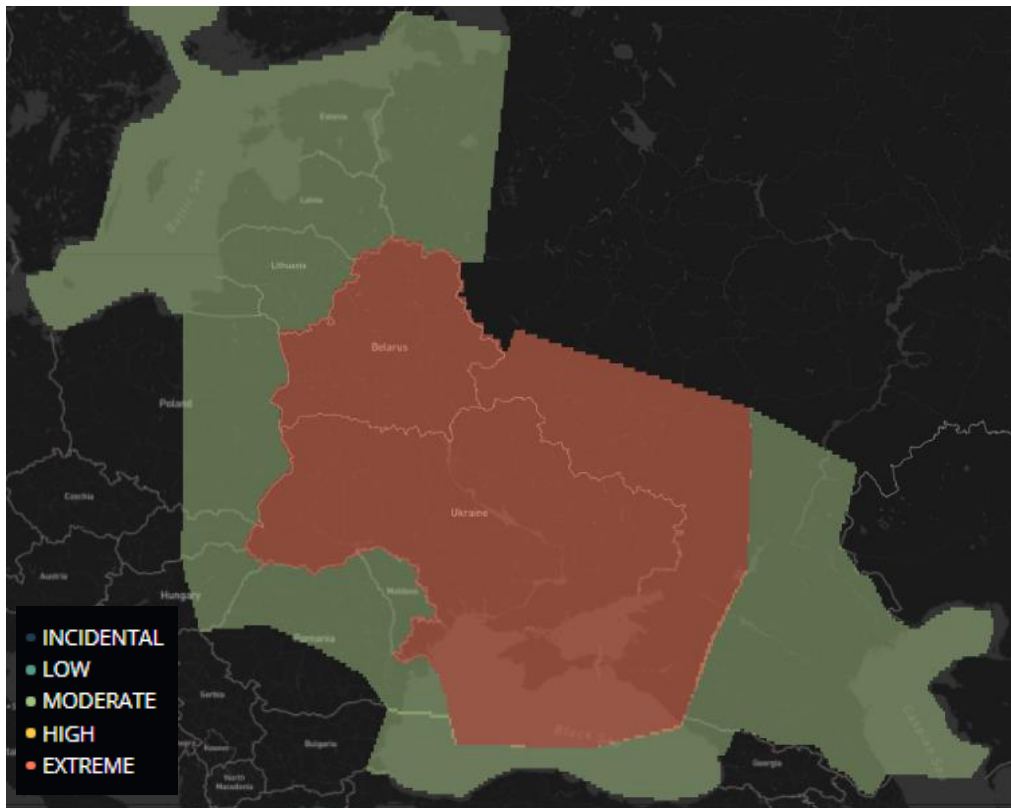


Attacks on aerial targets: A high number of aircraft, drones and missiles were shot at or shot down in the first two weeks of the conflict. Totals have declined due to attrition and changes in tactics; however, engagements continue to occur at lower altitudes during air operations over the Donbass, Kharkiv in the northeast and in the south near Mykolaiv/Kherson. The Russian Air Force has failed to gain full air superiority during the conflict and has operated in a risk-averse style, rarely penetrating deep behind Ukrainian military lines due to persistent all-altitude air-defence operations.

Russia-Ukraine Situation Update

Key Developments: Regulatory, Risk & Operational

Russia-Ukraine Situation Update



Osprey Airspace Risk Areas

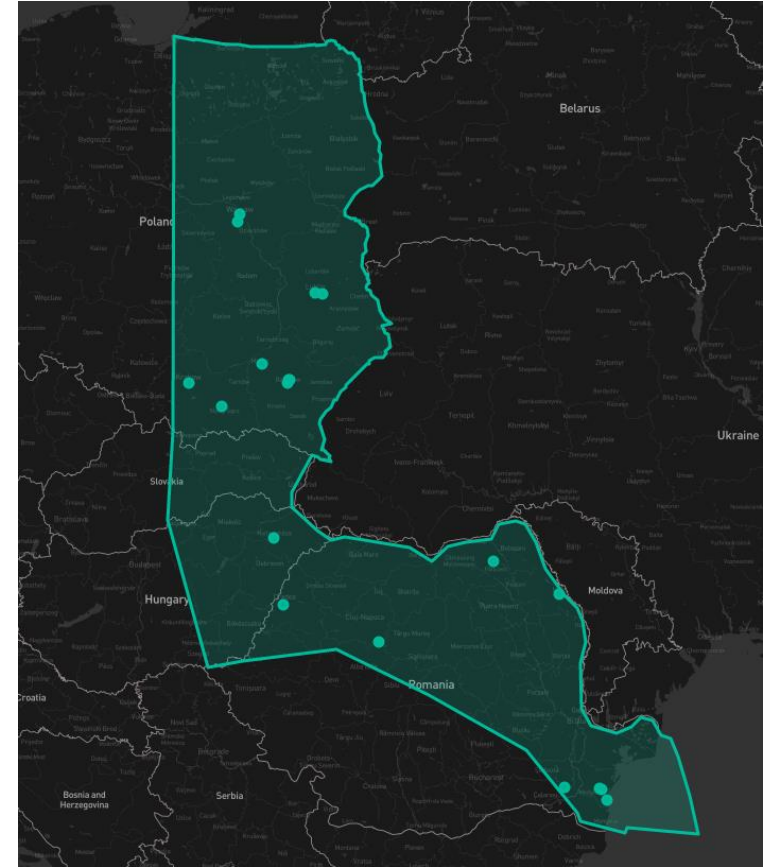
Osprey scoring for the relevant airspace risk areas outlined below:

- Ukraine - Donetsk & Luhansk: **EXTREME** at all altitudes
- Ukraine (non-Donbass): **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- FIR Simferopol (UKFV): **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- Russian Border: **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- Belarus: **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- Moldova: **MODERATE** at all altitudes (down from EXTREME on 24 Mar)
- South Black Sea, Southern Russia & North Caspian Sea: **MODERATE** at all altitudes (new on 25 Mar)
- Eastern Europe Border Areas & Baltic Sea: **MODERATE** at all altitudes (new on 25 Mar)

Russia-Ukraine Situation Update

Osprey airspace risk areas bordering Russia/Belarus-Ukraine conflict

- **Baltic Sea:** Increased NATO and Russian military air activity as well as global positioning system (GPS)/global navigation satellite system (GNSS) jamming and electromagnetic interference (EMI)
- **Eastern Europe Border Areas:** Increased NATO air activity and air-defence system deployments coupled with spillover by drones from Russia-Ukraine conflict
- **Southern Black Sea:** Increased NATO and Russian military air activity as well as presence of GPS/GNSS jamming and EMI
- **Northern Caspian Sea:** Russian military air and naval activity, including cruise missile launches into Ukraine without prior notices issued



Eastern Europe Border Areas



Russia-Ukraine Situation Update

Regulatory Information

- ✦ Moldova now permits some specific categories of flight, under certain conditions and with prior permission, in the previously closed eastern portion of its airspace, primarily along the Ukrainian border.
- ✦ **Belarus** has extended the restriction for a portion of its southern airspace; **Russia** continues to extend the closure of much of its southwest airspace as well as numerous ATS route segments on a weekly basis.
- ✦ **Poland, Slovakia, Hungary and Romania** have all issued NOTAMs regarding flight planning restrictions and Ukraine-related military activity in their airspace, primarily near their borders with Ukraine and Moldova. **Germany** has issued a NOTAM warning of reroutings and delays in its airspace due to Ukraine-related military activity.
- ✦ Major regulatory bodies – including **EASA, the UK, the US, Canada, France & Germany** – have issued/extended conflict zone notices for airspace in Ukraine and, in some cases, Russia, Belarus and Moldova, most with ‘buffer zones’ around Ukrainian airspace ranging up to 200NM.
- ✦ The **EU, the US, the UK, Canada**, almost all non-EU European nations and British Overseas Territories have banned Russian-linked aviation entities from using their airspace; Russia has reciprocated in almost all cases. Canada added Belarusian-linked flights to its ban on 16 March; most European nations have banned Belarusian flights since the May 2021 Ryanair forced landing incident.
- ✦ Eurocontrol-compiled NOTAMs related to Russia-Ukraine: <https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/>
- ✦ For more details of these notices, please access Osprey:Open via the following link: <https://www.ospreyfs.net/login>

Russia-Ukraine Situation Update

Osprey Assessment & Key Takeaways



Russia-Ukraine Situation Update

Osprey Assessment

Strikes are occurring in the wake of the Russian president stating on 24 February that Russia's armed forces had initiated a "special military operation" against Ukraine to "protect the Donbass" and to "demilitarise" Ukraine. **Osprey assesses that significant Russian military operations - likely including the use of cruise and ballistic missiles targeting Ukrainian armed forces bases and critical infrastructure sites in Ukraine, including airports/airbases - will persist through 2022.** Ukraine may continue to conduct a limited number of drone, missile and/or rocket launches into Russian territory, though such attacks are likely to occur within 160km (100 miles) of the border.

Osprey expects the Ukraine war will shift further to the southwest in the months ahead with heavy fighting expected near Zaporizhzhya to Kherson, along the Dnieper River. Increased military air and multi-type/variant missile (air-defence, cruise and/or ballistic) operations by the Russian and Ukrainian armed forces have the potential to cause airspace congestion and would impact the safety of civil aviation flights. **The significant increase in the amount of air and missile operations in southwest Russia, Ukraine and the Black Sea are expected to disrupt availability of airports/airbases along with access to airspace in these areas indefinitely.**

While there are no indications that Russia or Ukraine intend to kinetically target legal civil aviation flights, Osprey assesses there is an increasing potential for miscalculation and/or misidentification. **While Ukrainian airspace remains unavailable, leading civil aviation governing bodies may issue further notices to operators in addition to those above regarding Ukrainian and neighbouring airspace.**

Rerouting of civil aviation over additional portions of Belarus's FIR Minsk (UMMV) as well as Russia's FIR Moscow (UUWV), FIR Samara (UWWW) and/or FIR Rostov (URRV) along with the eastern portions of Moldovan, German, Polish, Hungarian, Slovakian and/or Romanian airspace is a significant concern going forward, either by further regulatory action and/or changes in insurance coverage. More restrictive measures could be enacted at short notice by these countries as well as other leading civil aviation governing bodies, including additional partial restrictions of airspace.



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Key Takeaways

- ✦ Ukraine is an active conflict zone and the airspace is unavailable; neighbouring states are also restricting airspace
- ✦ Both Russia and NATO are conducting increased levels of military air patrols over the Black Sea and Baltic Sea
- ✦ GPS jamming and other forms of EMI continue to occur in the region, including over the Black Sea and Baltic Sea
- ✦ Regulatory NOTAMs, circulars, publications, restrictions and/or bulletins continue to be issued at short notice
- ✦ Potential changes to insurance coverage and/or access to such services for flights related to Ukraine conflict



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